

In re Patent Application of:

**MEHUYS ET AL.**

Serial No. 10/795,925

Filed: 03/08/2004

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**Amendments to the Claims**

Claims 1. - 3. (cancelled)

4. (currently amended) ~~A laser system as recited in claim 1, A~~  
laser system, comprising:

a laser element having a laser signal output, the wavelength  
profile of which changes with a change in operating  
conditions; and

a wavelength-selective stabilizing reflective filter in line  
with the laser for receiving the laser signal, said reflective  
filter having a reflectivity profile having reflectivity  
peaks at two predetermined spaced wavelengths within the  
operating wavelength of the laser in the absence of said  
filter, the reflective filter being partially reflective at  
said different predetermined reflective spaced wavelengths and  
substantially less reflective in a wavelength band there  
between, and providing optical feedback of a portion of the  
laser signal to the laser element that wavelength-stabilizes  
its output, a degree of reflectivity at said predetermined  
wavelengths and a relative wavelength separation between the  
predetermined spaced wavelengths being such that throughout  
the change in operating conditions, output power of the laser  
element is concentrated at one or more of the reflector center  
wavelengths, with regions of negligible output power at  
wavelength sections between the reflector center wavelengths,  
wherein the laser system is without active cooling.

Claims 5. - 6. (cancelled)

7. (currently amended) ~~A laser system as recited in claim 1, A~~  
laser system, comprising:

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a laser element having a laser signal output, the wavelength profile of which changes with a change in operating conditions; and

a wavelength-selective stabilizing reflective filter in line with the laser for receiving the laser signal, said reflective filter having a reflectivity profile having reflectivity peaks at two predetermined spaced wavelengths within the operating wavelength of the laser in the absence of said filter, the reflective filter being partially reflective at said different predetermined reflective spaced wavelengths and substantially less reflective in a wavelength band there between, and providing optical feedback of a portion of the laser signal to the laser element that wavelength-stabilizes its output, a degree of reflectivity at said predetermined wavelengths and a relative wavelength separation between the predetermined spaced wavelengths being such that throughout the change in operating conditions, output power of the laser element is concentrated at one or more of the reflector center wavelengths, with regions of negligible output power at wavelength sections between the reflector center wavelengths, wherein the wavelength selective reflective filter includes wavelength selective dielectric coatings.

Claims 8. - 9. (cancelled)

10. (currently amended) ~~A laser system as recited in claim 2,~~  
A laser system, comprising:

a laser element having a laser signal output, the wavelength profile of which changes with a change in operating conditions; and

a wavelength-selective stabilizing reflective filter in line with the laser for receiving the laser signal, said reflective filter having a reflectivity profile having reflectivity

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peaks at two predetermined spaced wavelengths within the operating wavelength of the laser in the absence of said filter, the reflective filter being partially reflective at said different predetermined reflective spaced wavelengths and substantially less reflective in a wavelength band there between, and providing optical feedback of a portion of the laser signal to the laser element that wavelength-stabilizes its output, a degree of reflectivity at said predetermined wavelengths and a relative wavelength separation between the predetermined spaced wavelengths being such that throughout the change in operating conditions, output power of the laser element is concentrated at one or more of the reflector center wavelengths, with regions of negligible output power at wavelength sections between the reflector center wavelengths, wherein the reflective filter comprises two filters having different reflectivity responses, one of the filters having a reflectivity peak at one of the two predetermined spaced wavelengths and the other of the filters having a reflectivity peak at the other of the two predetermined spaced wavelength and wherein the degree of reflectivity of each of the reflective filters is approximately equal.

Claims 11. - 21 (cancelled)

22. (currently amended) ~~A laser system as defined in claim 20,~~  
A laser system, comprising:

a laser element having a laser signal output, the wavelength profile of which changes with a change in operating conditions; and

a wavelength-selective stabilizing reflective filter in line with the laser for receiving the laser signal, said reflective filter having a reflectivity profile having reflectivity peaks at two predetermined spaced wavelengths within the

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operating wavelength of the laser in the absence of said filter, the reflective filter being partially reflective at said different predetermined reflective spaced wavelengths and substantially less reflective in a wavelength band there between, and providing optical feedback of a portion of the laser signal to the laser element that wavelength-stabilizes its output, a degree of reflectivity at said predetermined wavelengths and a relative wavelength separation between the predetermined spaced wavelengths being such that throughout the change in operating conditions, output power of the laser element is concentrated at one or more of the reflector center wavelengths, with regions of negligible output power at wavelength sections between the reflector center wavelengths; and comprising a gain medium optically coupled with the laser element for receiving pump energy therefrom and further comprising an optical isolator in an optical path with the gain medium.

Claims 23. - 27. (cancelled)